

CLAIMS:

1. A method of determining the number of coins in a coin store which includes the steps of generating an acoustic pulse, generating a first waveform based on the reflections of the pulse by the store, comparing the first waveform to a second waveform and calculating the number on the basis of the comparison.
2. A method according to claim 1 wherein the second waveform is a reference waveform derived in a calibration operation.
3. A method according to claim 1, wherein the second waveform is derived from reflections of an acoustic pulse when a different number of coins is in said coin store.
4. A method according to claim 3 which includes the steps of generating the first waveform before, and generating the second waveform after, the coin store has performed one of a coin dispense or a coin receive operation.

5. A method according to claim 4 which includes the step of disregarding the first waveform and generating a further waveform if the coin store has not performed said operation within a predetermined interval.

5 6. A method according to any preceding claim wherein the comparison includes the step of identifying a portion of the first or the second waveform attributable to reflection of the pulse by a topmost coin in the coin store.

10 7. A method according to any preceding claim wherein the number is indicative of the height of a stack of coins.

 8. A method according to any preceding claim including the step of scaling either or both of the waveforms on a normative time axis prior to
15 the comparison.

 9. A method according to claim 8, wherein the scaling is based on a measured temperature at which the first waveform is generated.

20 10. A method according to claim 8 which includes the steps of matching at least one feature of the first waveform to a corresponding feature

of the second waveform and scaling either or both of the waveforms with reference to the feature.

11. A method according to claim 8, wherein the first and second
5 waveforms are correlated to determine a scaling factor.

12. A method according to any preceding claim which includes the
step of normalising the amplitude of either or both of the first and the second
waveforms prior to the comparison.

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13. A method according to any preceding claim wherein the
comparison is a subtraction of one of the first or second waveforms from the
other of the waveforms.

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14. A method of identifying a coin store which includes the steps
of generating a sample waveform by detecting acoustic pulses reflected by the
coin store and comparing the sample waveform to a plurality of reference
waveforms each corresponding to a known coin store.

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15. A method according to claim 14 which includes the steps of
generating the reference waveforms and storing them during calibration.

16. A method according to any preceding claim wherein the pulse is generated by a spark.

17. A coin handling apparatus which includes means for performing a method according to any preceding claim.

18. A coin handling apparatus which includes a coin store having at least one coin container, means for storing sets of reference data, each set corresponding to a respective coin store type, means for identifying a coin store type by deriving measurement data from the coin store and comparing it with a plurality of sets of reference data and means for measuring the level of coins in the container by deriving measurement data and comparing it with reference data applicable to that container.

19. A coin handling apparatus according to claim 18 wherein the coin store includes a plurality of containers and the identification means derives measurement data from each container.

20. A coin handling apparatus according to claim 18 or 19 which includes a thermometer.

21. A coin handling apparatus according to any one of claims 18 to 20 wherein the measuring means is adapted to perform the method of any one of claims 1 to 16.